

Amendments to the Figures

Please amend Figure 5 to include the designation "Prior Art". A replacement sheet for Figure 5 is provided here, with the amendatory label.

Remarks

With the above amendments, we submit a substitute specification, including both a clean version and a marked-up version. We have amended claim 1 and have canceled claim 5 without prejudice or disclaimer. Support for the amendatory language in claim 1 is summarized as follows:

- The language “constructed, in a state of tension,” is based on the disclosure of page 6, lines 22-24, and page 7, lines 8-9.
- The language “first link pieces and second link pieces which become a group, respectively and are located at two locations separated by a space in the direction of length of said tension member, and each of which is connected together such that each can rotate freely, thus forming two sets of connections;” is based on the disclosure of page 5, lines 16-22, and figure 2.
- The language “an energizing member and a damping member which are located between said two sets of connections between first link pieces and second link pieces, respectively;” is supported on the disclosure on page 6, lines 18-19, 28-29 and page 7, lines 1-2, and Figure 1.
- The language “the ends of said first link pieces are connected to a intermediate part of said tension member such that they can rotate freely;” and “the ends of said first link pieces are connected to a intermediate part of said tension member such that they can rotate freely;” are supported by the disclosure on page 6, lines 9-13, and Figure 1.
- The language “said energizing member keeps tension applied to the said tension member by energizing said two connections in a direction such that they approach each other” is supported by the disclosure on page 7, lines 3-9, and Figure 1.
- The language “said damping member absorbs said vibration with said vibration, when said two connections carry out relative displacement of said two connections” is supported by the disclosure at page 7, line 16 – page 8, line 6, page 8, line 21 – page 9, line 3, and Figure 1.

No new matter is introduced in Figure 5 or any of the claim revisions, and entry and consideration on the merits is requested.

In the August 13, 2007 Office Action, Figure 5 was objected to. In response, we

have amended Figure 5 in the appended replacement sheet by designating it "Prior Art." This is believed to fully address the objection.

The specification and claims are objected to. We have amended the specification and claim identifiers as requested by the Examiner. Claim 5 is canceled.

Claims 1-11 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. Specifically, the Examiner is objecting to the following phrase in main claim 1 as confusing: "... where first link pieces are connected directly to or by way of a rigid member to points along said tension member" We have amended claim 1 to clarify this phrase, and request this rejection to be withdrawn.

Claims 1-5 and 7-10 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,577,826 to Bergstrom et al. Claims 6 and 11 are rejected under 35 U.S.C. §103(a) as obvious over Bergstrom. The Examiner has taken the position that Bergstrom discloses all of the elements of main claim 1, and dependent claims 2-5 and 7-10. The Examiner has also alleged that claims 6 and 11, while not anticipated, are rendered obvious over Bergstrom – the Examiner's position is that the features of claims 6 and 11 are obvious design choices, and their criticality to the invention have not been disclosed.

The invention as represented by the amended claims above includes two sets of first link pieces 15 and second link pieces 16 which are connected mutually such that they can rotate freely, and is constituted such that the first link pieces 15 are connected with the intermediate part of tension member 14. It is adapted to keep a state of tension at the tension member 14. The second link pieces 16 are connected with the intermediate part of alcove slab 12 such that they can rotate freely. Second link pieces 16 follow the vibrations of alcove slab 12, and move to it by this constitution. Pin 19 (which is a connection part of first link pieces 15 and tension member 14) is therefore restrained by tension member 14. Thus, pin 21 (which is a connection part of first link pieces 15 and second link pieces 16) follows and moves to the vibration of alcove slab 12.

Since damping member 18 is located between pins 21, when pin 21 carries out relative displacement by vibration of alcove slab 12, damping member 18 is effected and a damping function is obtained.

Since energizing member 17 is located between pins 21 so that it may energize

pin 21 to the direction where they approach mutually, tension member 14 is maintained at the state where tension is able to be maintained

Thus, tension member 14 of the invention has the function to make pin 21 (which is a connection part of first link pieces 15 and second link pieces 16) move and damping member 18 act by restraining pin 19 (which is a connection part with first link piece 15 and tension member 14).

Turning now to the Bergstrom patent, we first note that this reference teaches a brace structure – thus, the aim of Bergstrom is to prevent modification of the field inboard direction of framework which generally consists of platform 4 and insulator column 6. The Bergstrom invention art is fundamentally different from our claimed invention, which is a damping device aiming at absorbing vibration of the field outside direction of the structural member.

In operation, the Bergstrom invention is seen in, for instance, Figure 4 of the Bergstrom patent. When horizontal force acts on the framework formed in the quadrangle, a framework tends to change into a parallelogram. As a result of one diagonal line's developing and shortening the diagonal line of another side, rope 11, located at the elongated diagonal line, becomes tense. Since rope 11 becomes tense, spring damper 12 acts. At this time, tension is not immediately applied to rope 11 located at the shortened diagonal line. Thus, rope 11 is a member which resists the horizontal force which acts on a framework united with insulator chains 7.

Although tension member 14 of the invention is not provided with the function which resists horizontal force, since there is no purpose of preventing modification of a framework like the prior art primarily, it is not necessary to have such a function.

In Bergstrom, the insulator column 6 (bridge pier) which supports platform 4 (alcove slab) is considered a structural member, insulator column 6 is connected with insulator chains 7 (second link piece), insulator chains 7 (first link piece) are connected with insulator chains 7 (second link piece), spring damper 12 (damping member) is connected with insulator chains 7 (first piece of a link) via ropes 11 (tension member) and prestressing member 14 (energizing member), each member is unified in the in-series state in the shape of a coaxial line.

Since insulator chains 7 (second link piece) are connected with insulator column 6 (bridge pier), though insulator chains 7 (second link piece) do not move, even if vibration of a vertical direction occurs in platform 4 (alcove slab). Since ropes 11 will slacken and tension force will not be given to ropes 11, even if one assumes that insulator chains 7 (second link piece) followed vibration of platform 4 (alcove slab)—for example, it moved downward—the springdamper 12 does not act.

Thus, since in Bergstrom's device a damping member does not act with vibration of the vertical direction of the structural member, a positive damping function cannot be obtained to vibration of the field outside the direction of the structural member.

In contract to Bergstrom, the subject invention is not brace structure but a damping device, it should just be located between bearing 13 near the structural member. Therefore, for example, since the opening formed by damping device 10 and bridge pier 11 is greatly securable in the space formed by alcove slab 12 and bridge pier 11 if tension member 14 is located near a structural member, it becomes possible to use space effectively.

By the amendments clarifying our invention, and the above explanation of the cited prior art, it is believed that all of our claims are distinguishable over the Bergstrom patent, and are patentable over this reference under both 35 U.S.C. Section 102 and 103. Reconsideration of this rejection is therefore requested.

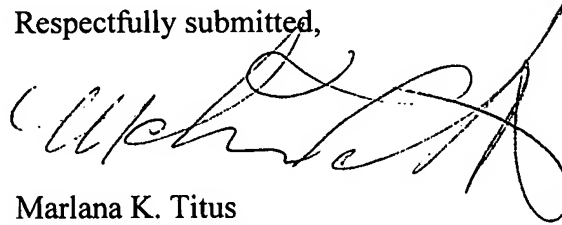
In summary, all of the Examiner's outstanding rejections and objections have been addressed, and the application is believed to be in allowable form. Notice to that effect is earnestly solicited. No amendment made was related to the statutory requirements of patentability unless expressly stated herein, and no amendment made was for the purpose of narrowing the scope of any claim unless we argued above that such amendment was made to distinguish over a particular reference or combination of references.

ISHIMARU et al.

Amendment responsive to August 9, 2007 Office Action

If the Examiner has any questions or would like to make suggestions as to claim language, she is encouraged to contact Marlana K. Titus at (301) 977-7227.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Marlana K. Titus', written in a cursive style.

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